

## Correspondence

### A profile of out-of-hospital cardiac arrests in Northern Emirates, United Arab Emirates

*To the Editor*

I have read the article of profile of out of hospital cardiac arrest (OHCA) in Northern Emirate<sup>1</sup> with great interest and hopeful optimism with knowledge that someone will make a difference to improve OHCA survival rate. Mortality rate at a median age of 50's for male need not be a norm and is a concerning issue as this is the peak of a productive age group supporting families and society. Even indirectly in terms of the burden of economic loss to society and government due to mortality is a considerable issue. There is much to be carried out in reducing mortality but it helps to know that member of the public are assured that they are only 9-9-8 away to make a difference to their loved ones. So a few reflection of the role of pre-hospital care and emergency medical services (EMS) infrastructure is perhaps appropriate and this is an opportune moment to discuss the importance and direction of such kind of work. Pre-hospital interventions are crucial, and yet higher education have not integrated EMS and paramedic program in their institution into a wide spread and well-established curriculum. As compared to other healthcare representation, EMS and paramedics are less represented in the healthcare institution in the Middle East. In fact the dynamics of their role is limited to a publicly (government) funded institution though the case may be different in UAE. Most private hospital even the emergency department rely on physicians and nurses in the care of their patient. Previous study<sup>2</sup> on pediatric out of hospital cardiac arrest in Riyadh shows an almost silent role of the activity of emergency medical services and a dismal mortality rate. This indeed is concerning that policy and decision makers should address to support patient in a community. Alrazeeni et al<sup>3</sup> identified problems at a call dispatch level with significant number of non- transport calls being refused by patients.

I have 2 comments on comparative study findings and a collaborative research. Coincidentally, an article is published on epidemiology of out of hospital cardiac arrest from Qatar region at same time as your article and I guess it is double "Eureka" for patients in Middle Eastern country that change is on a doorstep. Irfan et al<sup>4</sup> sample size is comparable to your sample size and

the finding of male predominance at a median age of 50's are comparable to your finding as well. The 2 study's finding is comparable in many ways. However, a notable remarkable difference is that their survival rate finding is comparable to the western countries as opposed to your finding that you have stated is lower than western countries, but is consistent with the other Middle Eastern finding. If you can comment perhaps to what may be accounted this comparable difference between your studies. Personally, I feel at this stage that a comparative statement regarding survival rate should confirm only variation of various studies findings. This makes it encouragingly pertinent to raise need for a collaborative research. As data is emerging, it becomes relevant to compare and contrast findings and results various sectors. Batt et al has previously suggested in a correspondence for a collaborative research and an appeal for such a collaborative research should be kept alive. As a contributing member to Pan-Asian Resuscitation Outcome study (PAROS), you have a unique insight into the network and perhaps a window into PAROS for the rest of Middle Eastern Countries. If you were to suggest, what level of collaborative research do you anticipate in the future? Is it at a National level? Or regional level as is been carried out by PAROS? Do you anticipate that PAROS model can reflect the regional need in terms of demographic characteristics? This issue has been raised, as one of the hindrances is the diversity of geography and associated difficulty in interpretation. I wonder if such an obstacle can easily be overcome because I feel that the virtue of collaboration is numerous; most importantly been a periodic feedback and communication and increasing of a sample size and variance. One area of research collaboration is to form a review panel to synthesize various studies and critically appraise those studies and make recommendations. The hope is that result of your findings and similar other works from Middle East will be reflected in the future summary reports endeavors such as systematic review or meta-analysis. Previous review and analysis of OHCA did not include studies from Middle East region.<sup>5</sup> This systematic review provided an important summary and variation of OHCA at a global level. In light of new finding, proactively contacting authors who have carried out OHCA reviews for inclusion of your work is a wise next step of action. This is a reverse strategy that I recommend instead of reviewers finding your work; you find them early for your work to have reflection on any future recommendation. Finally, Saudi Medical Journal (SMJ) editorial leadership and team are to

be commended for bringing a collection of research articles that falls under genre of out of hospital cardiac arrest in the Middle East and other related article on dispatch and importance of training and deployment of automated external defibrillator. The OHCA is an important topic at national, regional, and global level and there is a need to emphasize that data related to OHCA should be available to policy and decision makers. There is no better repository of OHCA articles in Middle East than SMJ and it is no exaggeration to label SMJ as an informal OHCA registry in Middle East. A small effort for making OHCA data report available is a giant leap to transforming institutional practices. A personal appeal to SMJ is to proactively invite institutions to submit data on OHCA. The process of publishing OHCA data has began already and what remains is to keep the momentum moving.

Let me conclude by quoting a statement from your work that this is a “commitment to improving health and wellbeing of both national and residents in UAE”. These are a bold and courageous commitment and hopefully can be reflected at the institutional level. But I would hope that implicit in your work is also a commitment to research, a commitment to education, and a commitment to public awareness to transform health infrastructure.

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#### *Reply from the Author*

We would like to thank Dr. Alamin Berhanu for his valuable correspondence regarding our publication.<sup>1</sup> We wholeheartedly agree that cardiac arrest mortality at a median age of 50's is not, and should never be accepted as a norm. The second year results for the Northern Emirates (NE) region have shown similar demographic trends. National Ambulance and our partners are encouraged by the doubling in the increase in return of spontaneous circulation rates, from 3.1% to 6.6%.<sup>6</sup> Survival to discharge information is expected from the receiving hospitals in the near future.

Regarding the integration and promotion of paramedics, we agree that much needs to be carried out in many countries in the region to develop and further the patient access to paramedics in certain prehospital care systems. The NE service is currently a basic life support (BLS) delivered service yet it is

delivering increasingly positive results from a novel service in a novel clinical setting. We believe that strengthening the initial links in the chain of survival, through improving public awareness of recognition of out-of-hospital cardiac arrest (OHCA); improving awareness of access to emergency medical services (EMS); and improving the public's capacity to respond by providing cardiopulmonary resuscitation (CPR) and access to automated external defibrillators (AEDs) may be considered more fundamental aspects of system improvement while implementing an advanced life support (ALS) system in the region.

While we are not in a position to comment on the exact reasons for the improved survival seen in the Qatar study, we commend Irfan et al study<sup>4</sup> at Hamad Medical Corporation in Qatar for their important publication. Further data from the region will only serve to strengthen the understanding of OHCA. We hypothesise that differences in demographics and geography may contribute to these results, as well as the presence of a Critical Care Paramedic at every cardiac arrest. Of note, our NE service also utilizes a 'hub and spoke' model of ambulance geographical locations that reduces response times.

Regional cooperation is essential, and while the diversity of data contribution to the Pan-Asian Resuscitation Outcomes Study (PAROS) may be seen as a weakness, the act of collaboration in itself is a strength, as to which Dr. Berhanu has alluded. Utilizing the PAROS system, we propose the data could also be shared among countries in the Middle East region in a parallel registry. Pooling and analysis of data from Middle East OHCA studies is essential, and we would certainly hope to see studies from the region form part of future systematic reviews. We are also of course interested in collaborating on such ventures with colleagues in the region and internationally.

We would like to reiterate Dr. Berhanu's comment, and commend the Saudi Medical Journal editorial team for their unwavering commitment to publishing literature of importance to the region. Finally, we can confirm that our commitment to improving outcomes from OHCA explicitly commits us to further collaboration, research, publication and education of healthcare professionals, policy makers and the public.

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## References

- 1 Batt AM, Al-Hajeri AS, Cummins FH. A profile of out-of-hospital cardiac arrests in Northern Emirates, United Arab Emirates. *Saudi Med J* 2016; 37: 1206-1213.
- 2 Salleh HM, Al Tom M, Ahmed Y, Leggio WJ, Abdulqader NF. Out of Hospital Pediatric Cardiac Arrest: Prospective Study from Riyadh, Saudi Arabia. *Biosci Biotech Res Asia* 2016; 13: 569-572.
- 3 Alrazeeni DM, Sheikh SA, Mobrad A, Al Ghamdi M, Abdulqader N, Al Gadgab M, et al. Epidemiology of non-transported emergency medical Services calls in Saudi Arabia. *Saudi Med J* 2016; 37: 575-578.
- 4 Irfan FB, Bhutta ZA, Castren M, Straney L, Djarv T, Tariq T, et al. Epidemiology and outcomes of out-of-hospital cardiac arrest in Qatar: A nationwide observational study. *Int J Cardiol* 2016; 223: 1007-1013.
- 5 Berdowski J, Berg RA, Tijssen JG, Koster RW. Global incidences of out-of-hospital cardiac arrest and survival rates: Systematic review of 67 prospective studies. *Resuscitation* 2010; 81: 1479-1487.
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### ERRATUM

In manuscript "Prevalence of vitamin D deficiency and its associated factors in three regions of Saudi Arabia. *A cross-sectional study*" Saudi Med J 2017; Vol. 38 (4): 381-390. The author's name should have appeared as: Ibrahim M. Kaddam, MD, FRCPath, Adnan M. Al-Shaikh, MD, FRCPC, Bahaa A. Abaalkhail, DrPH, MME, Khalid S. Asseri, MD, Yousef M. Al-Saleh, MD, FRCPC, Ali A. Al-Qarni, MD, FRCPC, Ahmed M. Al-Shuaibi, MD, Waleed G. Tamimi, MSc, PHD, Abdel Moneim Mukhtar, MPH, BDS.